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09/865,161	05/24/2001	James O' Toole	CIS00-3785	2826

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EXAMINER

BARQADLE, YASIN M

ART UNIT PAPER NUMBER

2153

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/865,161

Applicant(s)

O' TOOLE ET AL.

Examiner

Yasin M. Barqadle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **Response to Amendment**

1. The amendment filed on January 03, 2006 has been fully considered but are moot in view of the new grounds of rejection.

- New claim 35 has been added.
- Claims 1-35 are pending.

### **Response to Arguments**

In response to Applicant's arguments towards the finality of the rejection of November 04, 2005, Examiner notes that the office action summary sheet was mistakenly checked as a final action. However, the action was a non-final and was entered in the record as a non-final.

Regarding the preamble limitation of "an overlay network implemented as an abstraction on top of an existing network based on other connections," must be given a patentable weight, Examiner agrees with the applicant. Therefore, the limitation is addressed in the new grounds of rejection as indicated below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to

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which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 7, 8, 10-13, 17, 18, and 20-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al. (U.S. Patent Number 6,438,596, hereinafter "Ueno") in view of McCanne (US. Patent Number 6611872).

In referring to claim 1, 11, 20, 21 and 35, Ueno teaches

- Receiving at the transferring node collection of data from a provider node; transferring a copy of the collection of data to a child node of the transferring node in response to the step of receiving the collection of data; storing the collection of data in a data storage in the transferring node after completing the step of transferring the copy of the collection of data:

*"Furthermore, throughout this specification, video servers include a temporary memory type server, called a cache node or a network cache, in which a video is stored on or near a communication line set for transmitting the video information which is being offered to a user, and the same video is reused on another user's demand."* (Ueno, col. 1, lines 39-45)

Although Ueno shows substantial features of the claimed invention, Ueno does not explicitly show an overlay network implemented as an abstraction on top of an existing network. Nonetheless this feature is well known in the art and would have been an obvious implementation of the system disclosed by Ueno as evidenced by McCanne (US. Patent Number 6611872).

In analogous art, McCanne whose invention is about performing multicast communication in computer network by using overlay routing, discloses an overlay network architecture implemented as an abstraction on top of an existing network (fig. 2. (Col. 12, lines 39-59 and col. 4, lines 54 to col. 5, lines 38).

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying Ueno by employing the multicast system of

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McCanne so as to provides an improved network infrastructure where any type of information such as Internet distribution of software applications and updates, stock quotes, web pages, web cache updates, news, etc., can all be distributed more quickly, more efficiently, and with more control and monitoring.

In referring to claims 2 and 12,

- The step of receiving the collection of data comprises receiving the stream of packets in a buffer:

*“The network resources management control unit 1004 manages and controls the network resources, such as the bands of transmission lines contained in the core network 1002, and the buffer capacities of exchange nodes.”* (Ueno, col. 18, lines 47-51)

The step of transferring the copy of the collection of data comprises propagating the stream of packets from the buffer to descendent nodes of the transferring node for access by a first client making a first request for the collection of data from the descendent node; Storing the collection of data comprises transferring the stream of packets from the buffer to the data storage in the transferring node in a manner enabling access to the collection of data by a second client making a second request for the collection of data: *Ueno, col. 1, lines 39-45* (see full quote above)

In referring to claims 3 and 13,

- Transferring copies of the collection of data to each of the plurality of child nodes:

*Ueno, col. 1, lines 39-45* (see full quote above)

In referring to claims 7 and 17,

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- The step of transferring the copy of the collection of data comprises transferring the copy of the collection of data between the provider node and the child node through the transferring node in a delayed timing mode:

*Ueno, col. 1, lines 39-45* (see full quote above); when the data is reused for another user, the data is time shifted, and therefore in a delayed timing mode

In referring to claims 8 and 18,

- The step of storing the collection of data comprises retaining the collection of data after confirming the receipt of the copy of the collection of data by the child node:

*Ueno, col. 1, lines 39-45* (see full quote above)

In referring to claim 10,

- Maintaining a connection among the network of nodes in order to transfer the collection of data:

*Ueno, col. 1, lines 39-45* (see full quote above)

In referring to claims 22 and 24,

- Allowing access to the collection of data in the data storage at the transferring node at a later time by at least one of the child node and another node:

*Ueno, col. 1, lines 39-45* (see full quote above)

As per claims 23, 25, and 26-34, McCanne shows a multicast stream video stream. (Col. 2, lines 45-59 and col. 5, lines 30-62).

As per claim 27, McCanne teaches the invention wherein said hierarchical network of nodes comprise a distribution tree (fig. 2 and col. 5 lines 5-11).

As per claim 28, McCanne teaches the invention said distribution tree is rooted at a source node, said source node comprising said transferring node (col. 17, lines 35-56).

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As per claim 29, McCanne teaches the invention said hierarchical network of nodes comprise a distribution tree (fig. 2 and col. 5 lines 5-11).

As per claim 30, McCanne teaches the invention said distribution tree is rooted at a source node, said source node comprising said transferring node (col. 17, lines 35-56)

As per claim 31, McCanne teaches the invention said hierarchical network of nodes comprise a distribution tree (fig. 2 and col. 5 lines 5-11).

As per claim 32, McCanne teaches the invention said distribution tree is rooted at a source node, said source node comprising said transferring node (col. 17, lines 35-56).

As per claim 33, McCanne teaches the invention said hierarchical network of nodes comprise a distribution tree (col. 17, lines 35-56).

As per claim 34, McCanne teaches the invention said distribution tree is rooted at a source node said source node comprising said transferring node.

3. Claims 4, 9, 14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno in view of McCanne and further in view of Robles et al. (U.S. Patent Number 6,282,172, hereinafter "Robles"). Although Ueno shows substantial features of the claimed invention, Ueno does not explicitly show a step of providing an acknowledgment indicating that the collection of data is complete. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Ueno and McCanne as evidenced by Robles.

In analogous art, Robles discloses generating acknowledgement signals in a data communication system. Robles shows a step of providing an acknowledgment indicating that the collection of data is complete: *"An embodiment of the invention receives a data packet from a source node for transmission across a communication medium to a destination node. The system generates an acknowledgment signal indicating receipt of the data packet at the destination node. The acknowledgment signal is generated before*

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*completing transmission of the data packet to the destination node. The system then transmits the acknowledgment signal to the source node.”* (Robles, col. 2, lines 50-57)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of implementing the system of Ueno and McCanne so as to use a step of providing an acknowledgment indicating that the collection of data is complete, such as taught by Robles, in order to verify that the task was completed.

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Claims 5, 6, 15, and 16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno in view of McCanne and further in view of Acosta (U.S. Patent Number 6,496,520, hereinafter “Acosta”). Although Ueno shows substantial features of the claimed invention, Ueno and McCanne do not show receiving an indication for retransmission of one or more packets. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Ueno and McCanne as evidenced by Acosta.

In analogous art, Acosta discloses a wireless network system and method. Acosta shows receiving an indication from the child node that the copy of the collection of data received by the child node is incomplete; and transferring copies of at least one packet of data to the child node to complete the copy of the collection of data received by the child node: *“FIG. 6 is a block diagram of a retransmit request message packet 50 sent by a receiving device 52 in response to an incomplete payload 30 (shown in FIG. 4) reception, when the header packet 41 of the particular payload 30 has been received by the receiving device 52 but other data packets 40 have not been so received.”* (Acosta, col. 5, lines 56-61)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Ueno and McCanne so as to provide a means for retransmission of packets, such as taught by Acosta, in order to improve communications over low bandwidth, poor quality channels.

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### Conclusion

The prior made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin Barqadle whose telephone number is 571-272-3947. The examiner can normally be reached on 9:00 AM to 5:30 PM.

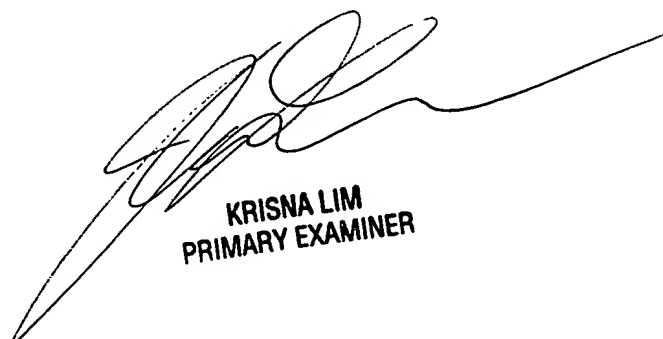
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR system. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YB

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PRIMARY EXAMINER